

Abstract of the Disclosure

A system comprising a solid-state optical beam regulator, an optical sensing device, and a computer provides for fast, accurate, and automatic tracking, steering, and shaping of an optical beam, such as that required in free-space optical communications. With a CMOS imager as the sensing device and a regulator constructed of a stress-optic glass material whose index of refraction is altered by induced stress, the system can track beam perturbations at frequencies greater than 1 kHz. This performance makes the system suitable for a variety of applications in free-space optical communications.